

Mr. Kirkaldy exhibited a box containing series of the following Scutellerine bugs showing great color-variation:

- 1.—*Chrysocoris grandis* from Macao.
 - 2.—*Tectocoris diopthalmus* from Australia, Amboina, Fiji, and New Caledonia.
 - 3.—*Lampromicra leucocyanea* from Biara.
 - 4.—*Poecilocoris druraci* from Macao.
- The first and fourth series were collected by Mr. Kershaw.

Some New Species of Hawaiian Lepidoptera.

BY OTTO H. SWEZEY.

Geuphantis leahi n. sp. [Fam. Phycitidæ].
(Plate 3, fig. 1.)

♂, ♀, 18-20 mm. Antennae, palpi, head, legs and thorax nearly uniform whitish grey. Abdomen shining whitish ochreous. Forewings whitish grey, sprinkled with fuscous, the fuscous scales tending to form lines on the veins, sometimes quite a wide suffused fuscous streak medianly the whole length of wing, usually a narrow whitish ochreous streak along the fold; lines obsolete; usually a black dot in the cell, another at end of cell; a terminal series of black dots; cilia grey with two whitish lines. Hindwings grey, terminally fuscous; cilia whitish grey, light fuscous at base.

The larvæ of this moth feed abundantly on the leaves of *Euphorbia cordata*. I have collected them and reared quite a number of the moths from this plant on the slopes of Diamond Head Crater, Oahu, on several occasions during the past three years. I have named the species for the Hawaiian name of this crater—"Leahi." I have also collected the larvæ from the same plant at Waialua and Waimea, Oahu, on the beach; and on *Euphorbia pilulifera* (a garden weed) in Kaimuki, Oahu.

The larvæ hide in a web spun between adjacent leaves and along the stem. They eat one surface and mesophyll of the leaf, leaving the other epidermis; hence, their presence on the plant is indicated by the webbed dead leaves. The pupa is formed in a slight cocoon amongst these or amongst leaves, etc., on the ground.

Full-grown larva—15 mm., light yellowish, with a wide blackish stripe on each side just above the line of spiracles, three narrower lines on dorsum between these two (these are lacking

in younger stages); head with a black spot enclosing each eye cluster, a black spot in the upper outer part of each lobe, sometimes a small spot about middle of each lobe; cervical shield has two longitudinal black stripes wide apart, also a little blackened on lateral margins; tubercles minute; hairs pale; spiracles light brown; feet pale like the ventral side.

Pupa—8 mm., pale yellowish brown; wing-, leg- and antenna-cases extend to apex of 4th abdominal segment; abdomen terminates very bluntly, with two curved bristles near together at apex, two situated somewhat dorsally and a little farther apart and one at each extreme side directed laterally; two dorsal pits at base of segment 9.

Limnerium blackburni is quite common as a parasite on the larvæ of this moth. From a batch of larvæ collected, usually more parasites are reared than moths.

Scoparia lycopodiae n. sp. [Fam. Pyraustidæ].

(Plate 3, fig. 2.)

♂. ♀. 16-19 mm. Antennae light fuscous. Head and thorax fuscous mixed with whitish. Palpi light fuscous, whitish above and on inner side. Abdomen grey, segmental margins whitish. Forewings with fuscous and whitish scales nearly uniformly mixed, the fuscous predominating in a subterminal streak; lines obsolete; orbicular and discal dots not defined; cilia whitish with fuscous line at base. Hindwings light fuscous, termen darker; cilia light fuscous, darker at base.

This species comes near to Meyrick's description of *S. epimystis*, but differs chiefly in the lines being obsolete.

Described from 4 specimens reared from pupæ found within the stems of *Lycopodium cernuum*, in the Koolau Mountains of Oahu, above Wahiawa, at an elevation of about 1,800 feet, May 31st, 1909; and one specimen reared from pupa similarly situated, Palolo Valley near Kaau Crater, July 5th, 1909.

In the former locality attention was attracted by the numerous dead tips of the plant, which on examination disclosed the fact that they had been bored for several inches by some insect. The larva was present in a few instances as well as the pupæ mentioned above. The larva apparently enters when quite small and bores downward in the middle of the stem. Having become full-grown, it gnaws a round hole nearly through to the exterior, then pupates just below, where it can readily emerge through the hole at the final transformation.

The full-grown larva is about 15 mm., pale shiny green; head pale yellowish mottled with light brown, eyes and posterior margin blackish; cervical shield concolorous; skin minutely papillose except on tubercles; tubercles broadly rounded or oval, "ii" farther apart than "i", "iii" above spiracle, "iv+v" below spiracle; hairs black, pale tipped; spiracles round, black. A larva but 9 mm. long had head and cervical shield black.

Pupa, 7.5 mm., pale yellowish, eyes, spiracles and apical segment of abdomen brownish; wing-cases extend nearly to apex of 4th abdominal segment; cremaster with 4 curved diverging bristles situated on a minute rounded projection; a large transverse dorsal callosity on terminal segment of abdomen.

Hyposmocoma ekaha n. sp. [Fam. Hyponomeutidæ].

(Plate 3, fig. 3.)

♂, ♀. Antennae pale brown, basal segment darker, with pecten. Palpi whitish, brownish on outer side of median segment, tips of terminal segment dark brown; median segment beneath with a large, pointed, forward-projecting, dense tuft of hair-scales. Head, thorax and abdomen whitish ochreous, patagia brown. Forewings medium brown, with a wide dorsal streak whitish ochreous sprinkled with brown scales, boundary line of this streak with several sinuations; cilia whitish ochreous brownish at apex with four dark-brown spots at their base on termen below apex, and four on costa before apex. Hindwings and cilia whitish ochreous, a few brownish scales along costa; no subcostal hair-pencil in male. Anterior and middle legs brownish; posterior legs whitish ochreous with a few brownish scales on outer side. Expanse of wings 16-17 mm.

This species is readily distinguished from all other species by the strongly developed tuft of the median segment of the palpi. The species is named from the native name of its food plant.

Seven specimens of this moth were reared from larvæ and pupæ found on the fronds of a bird's-nest fern (*Asplenium nidus*), in Halawa Valley, about three miles above Honolulu Plantation on the island of Oahu, Sept. 12th, 1909. All the fronds of this fern were badly eaten by the larvæ of this moth. They feed on the under surface of the frond, leaving the upper epidermis intact, which dries and gives the frond the appearance of having numerous dead patches. The older larvæ also bore into the rachis, and each has a tunnel of silk and frass extending out onto the frond to its feeding place. It apparently hides in the bored rachis except when out feeding.

The full-grown larva is pale yellowish; head pale yellowish brown, eyes black; cervical shield pale yellow; tubercles brownish, "ii" a little farther apart dorsally than "i", "iii" above spiracle, "iv+v" below spiracle; setæ pale brown; spiracles concolorous.

Pupæ were found in the rachis, also in a pendant portion of the silken tunnel which was on surface of frond. The pupa is 8 mm.; medium brown; antenna-, wing- and leg-cases extend to about middle of 6th abdominal segment, attached throughout; spiracles a little elevated by the segments being slightly bulging conically at the sides; a cluster of hooked bristles at cremaster fastened into silk of cocoon.

Of the pupæ collected, specimens of *Pimpla hawaiiensis* emerged from two.

Gracilaria hawicola n. sp. [Fam. Tineidæ].

(Plate 3. fig. 5.)

♂, ♀. 7-8 mm. Antennæ whitish ringed with brown, basal segment whitish; a little longer than forewings. Palpi whitish ochreous, apex of median segment and apical half of terminal segment brown. Head sordid white above, whitish on face. Thorax and abdomen pale brown above, whitish below. Forewings brown, a lemon-yellow streak on costa to 2-5ths then obliquely, at 3-5ths a short outwardly oblique white bar, almost meeting an inwardly oblique white bar from dorsum of wing, beyond these the apical portion of wing is mostly lemon yellow with two or three brown dots or bars on costa; at 2-5ths of dorsum an oblique white bar extends to the yellow streak from costa, at 1-4th another oblique white bar almost reaches the yellow streak; cilia pale brown. Hindwings and cilia dark fuscous. Legs brownish, tarsi ringed with white.

This moth I have named from the "hau" tree (*Paritium tiliaceum*) whose leaves its larvæ mine quite extensively. Sometimes one finds practically all of the leaves mined and often a dozen or more per leaf. It probably occurs on all the islands where the "hau" tree occurs. I have observed it at Koloa, Kauai; Wailuku, Maui; Waikiki and Tantalus, Oahu. My specimens were reared from cocoons collected this summer on Tantalus. The white rounded-oval cocoons were found quite abundant on the surface of leaves, and also on fence-posts situated beneath "hau" trees.

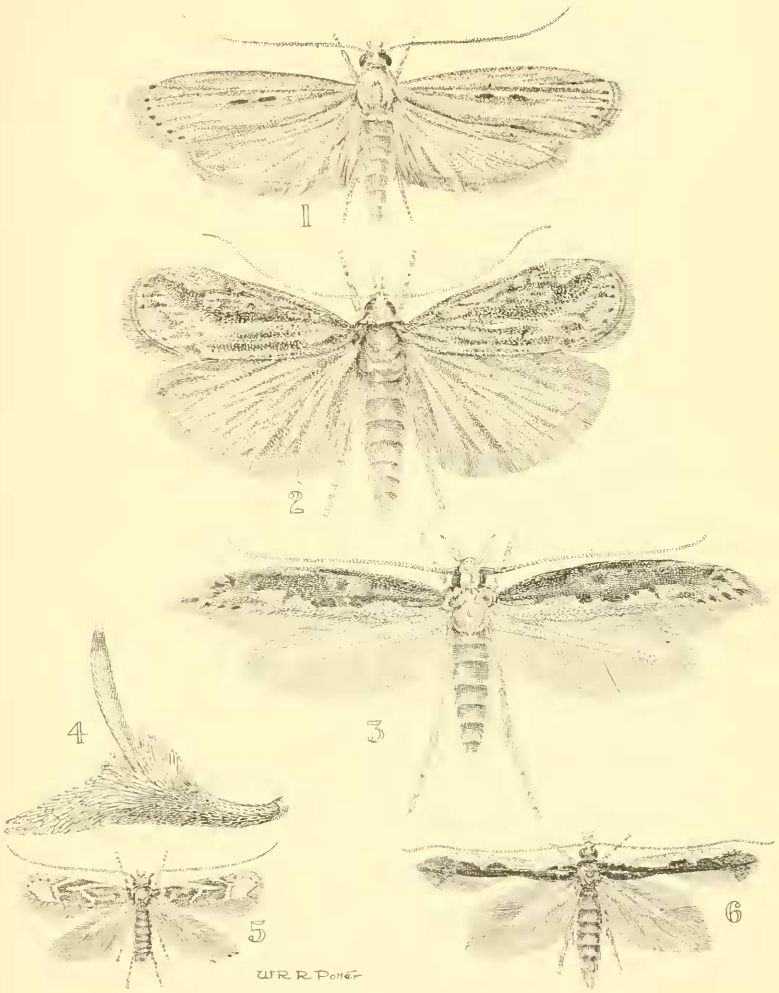


FIG. 1—*Genophantis leahi*, x5.

FIG. 2—*Scoparia lycopodiae*, x5.

FIG. 3—*Hyposmocoma ekaha*, x5.

FIG. 4—*Hyposmocoma ekaha*, labial palpus, highly enlarged.

FIG. 5—*Gracilaria haniicola*, x5.

FIG. 6—*Gracilaria mabuella*, x5.